

**Figure 1: Sequence listing of the OAS1 gene .**

LOCUS NM\_016816 1590 bp mRNA linear PRI  
 22-FEB-2001  
 DEFINITION Homo sapiens 2',5'-oligoadenylate synthetase 1 (40-46 kD)  
 (OAS1),  
 transcript variant E18, mRNA.  
 ACCESSION NM\_016816  
 VERSION NM\_016816.1 GI:8051620  
 KEYWORDS .  
 SOURCE human.  
 ORGANISM Homo sapiens  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;  
 Euteleostomi;  
 Mammalia; Eutheria; Primates; Catarrhini; Hominidae;  
 Homo.  
 REFERENCE 1 (bases 1 to 1590)  
 AUTHORS Merlin,G., Chebath,J., Benech,P., Metz,R. and Revel,M.  
 TITLE Molecular cloning and sequence of partial cDNA for  
 interferon-induced (2'-5')oligo(A) synthetase mRNA from  
 human cells  
 JOURNAL Proc. Natl. Acad. Sci. U.S.A. 80 (16), 4904-4908 (1983)  
 MEDLINE 83273721  
 PUBMED 6348777  
 REFERENCE 2 (bases 1 to 1590)  
 AUTHORS Saunders,M.E., Gewert,D.R., Tugwell,M.E., McMahon,M. and  
 Williams,B.R.  
 TITLE Human 2-5A synthetase: characterization of a novel cDNA  
 and  
 corresponding gene structure  
 JOURNAL EMBO J. 4 (7), 1761-1768 (1985)  
 MEDLINE 85284966  
 PUBMED 2411547  
 REFERENCE 3 (bases 1 to 1590)  
 AUTHORS Benech,P., Mory,Y., Revel,M. and Chebath,J.  
 TITLE Structure of two forms of the interferon-induced (2'-5')  
 oligo A  
 synthetase of human cells based on cDNAs and gene  
 sequences  
 JOURNAL EMBO J. 4 (9), 2249-2256 (1985)  
 MEDLINE 86081732  
 PUBMED 2416561  
 REFERENCE 4 (bases 1 to 1590)  
 AUTHORS Wathelet,M., Moutschen,S., Cravador,A., DeWit,L.,  
 Defilippi,P.,  
 Huez,G. and Content,J.  
 TITLE Full-length sequence and expression of the 42 kDa 2-5A  
 synthetase  
 induced by human interferon  
 JOURNAL FEBS Lett. 196 (1), 113-120 (1986)  
 MEDLINE 86108911  
 PUBMED 3753689  
 REFERENCE 5 (bases 1 to 1590)  
 AUTHORS Shiojiri,S., Fukunaga,R., Ichii,Y. and Sokawa,Y.  
 TITLE Structure and expression of a cloned cDNA for human  
 (2'-5')oligoadenylate synthetase  
 JOURNAL J. Biochem. 99 (5), 1455-1464 (1986)  
 MEDLINE 86223945  
 PUBMED 3754863

## Figure 1:Page 2

- REFERENCE 6 (bases 1 to 1590)  
AUTHORS Williams,B.R., Saunders,M.E. and Willard,H.F.  
TITLE Interferon-regulated human 2-5A synthetase gene maps to  
chromosome 12  
JOURNAL Somat. Cell Mol. Genet. 12 (4), 403-408 (1986)  
MEDLINE 86289724  
PUBMED 2426799
- REFERENCE 7 (bases 1 to 1590)  
AUTHORS Benech,P., Vigneron,M., Peretz,D., Revel,M. and  
Chebath,J.  
TITLE Interferon-responsive regulatory elements in the promoter  
of the human 2',5'-oligo(A) synthetase gene  
JOURNAL Mol. Cell. Biol. 7 (12), 4498-4504 (1987)  
MEDLINE 88142842  
PUBMED 2830497
- REFERENCE 8 (bases 1 to 1590)  
AUTHORS Wathelet,M.G., Clauss,I.M., Nols,C.B., Content,J. and  
Huez,G.A.  
TITLE New inducers revealed by the promoter sequence analysis  
of two interféron-activated human genes  
JOURNAL Eur. J. Biochem. 169 (2), 313-321 (1987)  
MEDLINE 88082760  
PUBMED 3121313
- REFERENCE 9 (bases 1 to 1590)  
AUTHORS Rutherford,M.N., Hannigan,G.E. and Williams,B.R.  
TITLE Interferon-induced binding of nuclear factors to promoter  
elements of the 2-5A synthetase gene  
JOURNAL EMBO J. 7 (3), 751-759 (1988)  
MEDLINE 88283644  
PUBMED 2456211
- REFERENCE 10 (bases 1 to 1590)  
AUTHORS Wathelet,M.G., Szpirer,J., Nols,C.B., Clauss,I.M., De  
Wit,L., Islam,M.Q., Levan,G., Horisberger,M.A., Content,J.,  
Szpirer,C. and Huez,G.A.  
TITLE Cloning and chromosomal location of human genes inducible  
by type I interferon  
JOURNAL Somat. Cell Mol. Genet. 14 (5), 415-426 (1988)  
MEDLINE 89019578  
PUBMED 3175763
- REFERENCE 11 (bases 1 to 1590)  
AUTHORS Nechiporuk T, Nechiporuk A, Sahba S, Figueroa K, Shibata  
H, Chen XN, Korenberg JR, de Jong P and Pulst SM.  
TITLE A high-resolution PAC and BAC map of the SCA2 region  
JOURNAL Genomics 44 (3), 321-329 (1997)  
MEDLINE 97468145  
PUBMED 9325053
- REFERENCE 12 (bases 1 to 1590)

## Figure 1:Page 3

AUTHORS Renault B, Hovnanian A, Bryce S, Chang JJ, Lau S,  
Sakuntabhai A,  
Monk S, Carter S, Ross CJ, Pang J, Twells R, Chamberlain  
S, Monaco

AP, Strachan T and Kucherlapati R.  
TITLE A sequence-ready physical map of a region of 12q24.1  
JOURNAL Genomics 45 (2), 271-278 (1997)  
MEDLINE 98008914  
PUBMED 9344649  
REFERENCE 13 (bases 1 to 1590)  
AUTHORS Hovnanian,A., Rebouillat,D., Mattei,M.G., Levy,E.R.,  
Marie,I.,  
Monaco,A.P. and Hovanessian,A.G.  
TITLE The human 2',5'-oligoadenylate synthetase locus is  
composed of  
three distinct genes clustered on chromosome 12q24.2  
encoding the  
100-, 69-, and 40-kDa forms  
JOURNAL Genomics 52 (3), 267-277 (1998)  
MEDLINE 99009311  
PUBMED 9790745  
COMMENT REVIEWED REFSEQ: This record has been curated by NCBI  
staff. The  
reference sequence was derived from X02875.1.  
Summary: This gene encodes an enzyme included in the 2',  
5'  
oligoadenylate synthase family. This enzyme is induced  
by  
interferons and catalyzes the 2', 5' oligomers of  
adenosine in  
order to bind and activate RNase L. This enzyme family  
plays a  
significant role in the inhibition of cellular protein  
synthesis  
and viral infection resistance. Alternative splicing of  
this gene  
produces two isoforms which share identical N-terminal  
sequence but  
diverge at exon 7.  
Transcript Variant: Transcript variant E18 represents  
the 1.8 kb  
product that diverges from the predominant transcript  
variant E16  
in exon 7. This form contains an additional exon and is  
very  
hydrophilic as compared to transcript variant E16.  
COMPLETENESS: complete on the 3' end.  
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/gene="OAS1"  
/note="IFI-4; OIAS"

## Figure 1:Page 4

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polyA\_site 1585

## Figure 1:Page 5

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acttcattcc
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gagaatgaaa
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```

**Figure 2:** Schematic of the OAS1 gene showing intron/exon structure and protein structure

### Genomic structure

